3/C	Thank you.
CSQ	Flight, CSQ. We have the qual...(garble)...quantity gauge off. Do you want it in a particular position, or just leave it off?
HOUSTON	I think we might as well leave it off for tonight.
CSQ	Roger. CSQ has LOS.

END OF TAPE

This is Gemini Control. We are now 315 hours and 20 minutes into the mission of Gemini 7 and exactly 14 hours 37 minutes away from retro-fire which will take place tomorrow morning. At this time the spacecraft is moving over the Pacific on revolution 197. The flight crew is in a sleep period and activity is low pitched here at the Mission Control Center. This is Gemini Control, 315 hours and 20 minutes into the mission.

END OF TAPE

This is Gemini Control, at 316 hours, 20 minutes into the mission of Gemini 7. Our crew status, according to the ground data readouts, we still do not, we still cannot confirm that both crewmen are asleep. However, they are quieting down. We have a report from White Sands. At White Sands tomorrow we had scheduled a high altitude abort test with the Apollo Program. This test has been postponed now until after January 1. The primary cause was a problem with the autopilot on the Little Joe II launch vehicle and we do not have a firm date for the re-scheduled test. However, it will be after January 1. And now - we have been taking a look with our weather man, Alan Cummings, at the Atlantic Recovery Area. Alan is one of our weather men here in Mission Control that works with the Gemini crew and he will give you an update on what the weather looks like for tomorrow morning. Come in, Alan.

This map shows what we expect the weather situation to look like at landing time in the morning shortly after 8:00 central standard time. The low pressure system depicted here is presently in a position about here, the front shown here, now extends back into here and down to about Miami. We predict that this front will move to the position as shown by 8:00 a.m. in the morning, and the landing zone itself, where the spacecraft will come down is just north of 25 degrees and on the 70 degree longitude line. The outlook is for only partly cloudy skies, with a west wind of about 12 knots and waves only 3 to 4 feet. There's very little chance of showers in this area as the upper air flow patterns controlling movement of real weather producing systems, has been very favorable for the west Atlantic during the past 2 weeks, and they expect it to remain so, at least through Saturday. The outlook is not quite as good as it was for Gemini 6, but it's certainly favorable from all weather standpoints. Little chance for showers, light to moderate winds, and very slight seas. And that's how it looks for the Gemini 7 spacecraft landing in the morning.

Thank you, Alan. That was Alan Cummings, one of the Weather Bureau experts who are assigned here to the Gemini Program.

We are now 316 hours and 22 minutes into the mission of Gemini 7, and we are 13 hours 35 minutes from retrofire tomorrow morning. The mission is drawing closer to the end. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are now 12 hours and 32 minutes away from retrofire tomorrow morning. The spacecraft is on the 198th revolution . The crew is asleep. At least in a sleep period and the spacecraft is over the Pacific Ocean and very shortly will come up on the West coast of South America. The crew has now spent 370 hours and 25 minutes in space. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are 11 hours and 37 minutes from retrofire tomorrow morning. Our ship, Gemini 7, is passing on its 199th revolution and will very shortly come up over the Coastal Sentry Tracking Ship in the Pacific. According to the latest information that we have received from the spacecraft via telemetry, the crew is asleep. This is Gemini Control, 318 hours and 20 minutes into the Gemini 7 mission.

This is Gemini Control. We are now 319 hours and 20 minutes into the mission of Gemini 7 and 10 hours 37 minutes away from retrofire tomorrow morning. Aboard our spacecraft the crew is asleep. They are now starting the 200th revolution around the earth, and at the present time are passing over the Rose Knot tracking ship range. Our schedule for the morning - the crew will be awakened at approximately 2:00 a.m. Eastern Standard Time; they will suit up and prepare the spacecraft for the retrofire which is scheduled for 8:28 Eastern Standard Time. Splashdown in the Atlantic will be at 9:05 Eastern Standard Time. This is Gemini Control. We are now 319 hours and 20 minutes into the mission

END OF TAPE

This is Gemini Control. We are now 9 hours and 37 minutes away from retrofire, which will signify the end of Gemini 7 mission. At the present time, Gemini 7 is passing over the Pacific on the 200th revolution around the earth. We have had no voice communication with the crew since the sleep period started about 3:00 p.m. Central Standard Time. In the Control Center here, our flight controllers are completing their reports on the activities for the day and we have one more hour, approximately, of duty here before being relieved by the Blue Team. Aboard the spacecraft the crew is asleep according to the data we have that we received from the ground. And we are as we say 320 hours 21 minutes into this mission. We will now have a weather report from Allen Cummings, one of our weather men, that has area and support of the Gemini mission. Will you come in now Allen?

Allen Cummings

A cold frontal system from just South of Miami extending up Northeast into the North Atlantic and rather intense low pressure system at approximately 40 degrees North and 55 degrees West latitude. The front is now approximately 250 to 300 miles Northwest to the anticipated splash point into the - beginning of the rather the/207th revolution, at approximately 25 04 North and 70 degrees West. We anticipate this low pressure system will move on to the East and Northeast and lighten the present 19 knot winds that are reported by the carrier Wasp in the immediate vicinity of the splash point. During the next 12 hours we anticipate decrease in this wind speed to around 12 knots by splash time a little after 8:00 a.m. Central Standard Time. The waves reported by the Wasp on their last observation were 2 feet. There should be some increase

in this to about 3 to 4 feet. Only partly cloudy skys exist out at the Wasp and we anticipate cloud coverage at the time of spacecraft landing will be only about one half of the sky covered, perhaps even less than this. The front will have approached by that time to within approximately 150 miles, and shower activity should be concentrated in the immediate vicinity of the front and we don't look for any around the carrier at the time of spacecraft landing. The situation is not quite as good as it was for the GT-6 splash on Thursday morning but it's entirely acceptable and we see no reason why the weather shouldn't be quite reasonable and comfortable for the GT-7 landing.

Thank you Allen Cummings. We have received here in Mission Control, as we usually will now, a message from the Rose Knot tracking ship. The spacecraft passed over the Rose Knot beginning this 200th revolution and it so happened that this is the last revolution that will bring Gemini 7 within range of the Rose Knot tracking station. The message reads: "So ends Rose Knot revolution 200 and our modest but prowd contribution to space history. The crew is asleep." That was the last message from Rose Knot for this mission and the people in the Control Center here feel that the Rose Knot support was anything but modest. It was very good all the way. This is Gemini Control, 328 hours 24 minutes into the mission.

END OF TAPE

This is Gemini Control. We are 8 hours, 38 minutes from retrofire, which will take place tomorrow morning ending Gemini 7's mission. At this time, Gemini 7 is on its -- it is starting -- has started just a few minutes ago revolution 201, and at the present time is passing over the continent of Africa on its way over towards India. The ground data that we have had up until -- or the ground data that we have received over the past few hours indicates that both crewmen are asleep and have been asleep for quite some time. Here in Mission Control, we are in the midst of a shift change. The Blue Team of Flight Controllers moving in, being briefed by the White controllers, and this will be the last shift for the big White Team here in Mission Control for this mission. This is Gemini Control. We are now 321 hours and 21 minutes into the mission.

END OF TAPE

This is Gemini Control where Flight Director John Hodge's Blue Team has just taken over the consoles at 321 hours and 40 minutes into the flight of Gemini 7 on its 201st revolution now crossing Sumatra. We've just gotten word that the tracking ships Coastal Sentry and the Rose Knot are headed for their ports. The Coastal Sentry will pull into port at Naha, Okinawa and steaming for there now from its position off of Japan. The Rose Knot is steaming for Rio de Janeiro from its position off the east coast of South America. We have eight minutes and 17 seconds -- eight hours, 17 minutes and 20 seconds to go to retrofire. This is Gemini Control.

END OF TAPE

This is Gemini Control, 323 hours and 20 minutes after the hour, into the flight. On the 202nd revolution and the crew is over Carnarvon and they are awake. They woke up just a minute ago, 1:49 a.m. and called Carnarvon and told them they were ready to purge their fuel cells, rather than wait 'till scheduled over the States, let's get it over with. We've been looking at some readouts from the spacecraft and, during the past few revs the cabin temperature has been holding at 71 degrees and the cabin pressure, as it has been all the way through this flight, is over 5 pounds per square inch. The average stacks are giving out over 4 amps, and we noticed over Canaries during the sleep period that there was a little bit of thruster activity and it was guessed that they were probably amping out some minor rates that they had accumulated during the night. Prior to that they had been asleep. This was at 12:17 a.m. The medical readouts indicated that the Pilot, Jim Lovell, had woke up and damped out those rates. We have some figures on retrofire and the sequence from retrofire to splash. Splash is scheduled to take place this morning, at 8:05.29 seconds according to the latest figures. That means the flight will have lasted 330 hours 35 minutes and 26 seconds, if those figures hold up. They usually vary a few seconds. The retros should be fired about 1100 miles north of the Figii Islands, 3000 miles east southeast of the Phillippines. And they should encounter the sensible atmosphere, that's at about 400 000 feet at 7:49.36 over the Rio Grande River near Olenga, Mexico, 300 miles northwest of Monterrey. At 350 000 feet they'll be somewhere between San Antonio and Galveston, Texas. About 60 miles south of San Antonio, as a matter of fact. These are nautical miles. And they begin this - that 350 000 feet by the way should take place at 7:51.01. They should be about $57\frac{1}{2}$ miles high then. They begin their communications blackout period at 7:52.44 and this is over the Gulf of Mexico, about

150 nautical miles southeast of Galveston. And this period will last until 7:57.46, that's almost exactly 5 minutes, and they'll come out of the blackout, communications blackout, at about 22 miles high, and this is about 400 miles south of Nassau and 500 miles east southeast of Cape Kennedy and 510 south southwest of Bermuda. The recovery area, the point we're aiming for, is 590 miles east southeast of Cape Kennedy, 500 miles south southwest of Bermuda. This is at longitude 25 degrees, 24 minutes north, and 70 degrees west. They should splash at 8:05.29, as we said before. We have some conversation that was just heard over Carnarvon. We're ready to play that tape for you so let's hear what they were talking about over Carnarvon.

S/C Anyone read Gemini 7?

CRO Gemini 7, Carnarvon Cap Com. I read you loud and clear. How's it going up there?

S/C Very good. We're ready for a fuel-cell purge if you are.

CRO Stand by one.

S/C Are we scheduled for one this rev?

CRO Or do you want to wait 'till over the States?

FLIGHT That's not due 'till over the States here but if he wants to do it let's get it over with.

CRO Uh, roger, go ahead, Gemini 7.

S/C Rog. Purging now.
Our biomed recorder 2 is OFF. C-band reentry continuous.

CRO Roger, thank you.
You ready to come home today?

S/C Ready, ready!!

CRO Righto.
He said he had reentry C-band in continuous, but I cut the ON command anyway.

FLIGHT Okay. It doesn't matter.

CRO Rog.

FLIGHT Getting an early start.

CRO Yeah, I imagine he's kinda anxious. He sure sounds that way.

FLIGHT How does everything look?

CRO Looks real good here, flight.

Still have both those delta P lights with us.

FLIGHT Okay. We're getting the cryo readouts over here.

CRO I think we have enough time to do it.

FLIGHT Oh, will you?

CRO No, I guess not. No, I guess not.

FLIGHT Okay.

CRO We're not even going to have to complete the purge.

FLIGHT Fair enough.

CRO Yeah, we've had all that - -

FLIGHT Roger, Carnarvon, we'll see you next time.

Gemini Control here. They passed pretty far north of Carnarvon and just barely within range of the station so the conversation wasn't very long. They are scheduled to eat their breakfast between now and when they, as a matter of fact, they'll be eating breakfast all the way across this pass. They'll be in touch with the U.S. stations for a brief period of time, probably Antigua and Grand Turk Islands Stations, on a pretty low pass. This is just barely tipping the northern part of South America. They're in the middle of the day right now over the east coast of Australia. They'll be very shortly over the Pacific Ocean and headed for their 203rd revolution counting down toward about 7 hours 'till splash. So at 323 hours 25 minutes and 58 seconds into the flight, this is Gemini Control.

END OF TAPE

This is Gemini Control, 324 hours and 20 minutes into the flight of Gemini 7. Gemini 7 now has 5 hours and about a little over 6 hours to go till splash time. Just slightly longer than three revs. About the same amount of time John Glenn spent in orbit on February 20, 1962, the very first orbital flight in our Manned Space Program. Right now the crew is heading over the northern part of Africa, still in contact with - just barely in contact with our Canary Island Station. They've been up there now since 1:30 a.m. Central Standard Time on December 4th. They are in their 14th and final day of flight. Well, on the completion of this flight, the Mercury and Gemini programs combined will have given the United States 1,356 hours and 20 minutes of spaceflight experience. Nearly half of that will have been provided by Astronauts Frank Borman and Jim Lovell. About 1:32 a.m. they reported that the command pilot was getting 'nto his suit and the pilot was already suited. The pilot had woke up over the Indian Ocean, sometime this morning. I gave them that figure as 1:49 a.m. when they contacted Carnarvon - that was an Eastern Time, I should have said 12:49 Central Standard Time is when the crew made their first contact with ground stations this morning and that was with Carnarvon. We've been listening to some conversation over the United States and we have a tape of that conversation. We'll play that tape for you now.

Cap Com Gemini 7 Houston.

S/C Roger Houston, Gemini 7.

Cap Com Good morning. Would you please place your TM switch to real time and ACK.

S/C Roger. Real time and ACK.

Cap Com Cryogenic gauging switch to ECS O_2.

S/C ECS O_2.

Cap Com I have a flight plan update for you.

S/C Roger.

Cap Com Can you tell me if the command pilot is getting into his suit right now?

S/C Roger, he is getting into his suit right now.

Cap Com Very fine, thank you.

Would you place your cryogenic gauging switch to fuel cell O_2?

Cryogenic gauging switch back to fuel cell H_2.

S/C Fuel cell H_2.

Cap Com Okay, whenever you are ready I'll read you this flight plan update.

S/C All set.

Cap Com Okay, before that, turn your cryogenic gauging switch to OFF, please.

S/C OFF.

Cap Com How does it feel for the last day?

S/C Just great. Frank just got back into his suit. . garbled . And we are all set to go home.

Cap Com Great. Here is your NODE - time is 325:27:25; rev 203; 114.5 degrees West; right Ascension 07 hours 06 minutes 31 seconds.

S/C Roger, have it.

Cap Com Flight plan time line update is changed 32400 to 32413.

S/C Roger

Cap Com The next item we can delete. It was to have been a 32440 begin suiting up. I guess you've got that all hacked, huh?

S/C Righto, just about that way right now.

Cap Com Good, next item is 325:00:00 biomed recorders 1 and 2 continuous.

S/C Rog.

Cap Com Time 325:34:49 a crew status report command pilot at Canaveral.

S/C Okay, will do.

Cap Com Time 326:24:37 is a crew status report on the pilot at Carnarvon.

S/C Okay.

Cap Com Yesterday, Jim, you were given the addition to be placed on the checklist prior to platform cage BEF item.

S/C Roger, we have that.

Cap Com I have a few additions to that list of things to be done. After secondary pump A ON, place the tape recorder power circuit breaker ON. The next item in the same checklist will be tape recorder control circuit breaker verify OFF. It seems like magically the tape recorder started playing at retrofire on 6. One thing else we'd like to get immediately before you retrofire or the last time you take water out of the system is a gun count. We'd like to have that both for environment and also for CG location.

S/C Its not going to change from the time I retrofire and the time I land.

Cap Com That's right. What we'd like to have is just the last gun count.

S/C We'll get you the last gun count.

Cap Com And we'd like to have it soon enough so that we could compute a CG based on it.

S/C Okay, I see what you mean.

Cap Com We will expect to have one more purge immediately prior to your power up at Kano and that will be on the State side pass before the purge - before the power up.

S/C Roger, Understand.

Cap Com And one thing I'd like to ask you how you feel about is an extremely small OAMS check. What it entails is simply closing the TCA circuit breaker number 3 and then firing for a minimum of three seconds in direct - firing that circuit breaker. We'd like to do that on that state-side pass if you are inclined to do it.

S/C I'm afraid we're not inclined to do it. We are low on fuel and going to save it all for a possible dilemma.

Cap Com Very well. We won't do it then. Incidently it turned out in Wally's reentry that there was apparently a small electrical bias on the down range air needle. And if you'd like a description of how he calibrated that, I'd be happy to give it to you. It might help you in your reentry.

S/C Go ahead.

Cap Com With the computer in the reentry mode and the FDR's DM in computer in attitude, respectively, at about plus 5 minutes but in any event prior to the 400 K, Wally took a Pentel pen and marked the NO position of the down range needle. The FDI's were on the low scale. Now this new NO position was about 2 and a half needle widths below the nominal or 0 NO position as established on the 8-ball.

S/C . . garbled . .

Cap Com I beg your pardon.

S/C . . garbled.. is that correct?

Cap Com That's right. Goes on then - Wally then after guidance initiated flew to his Pentel NO for down range correction. From the splash down results this method has definite merit. If he had flown to the 8-ball NO he may have been flying to a point some 15 miles short. This NO error was not evident in the previous computer modes used particularly in radar or platform. That was - he hadn't seen it before until he got in this configuration.

S/C Roger. We'll take a bias check here after retro and while we're in BF, on the way down before . . garbled . initiate.

Cap Com Okay, good deal Jim. Jim could you reverify that the standby transmitter power circuit breaker in ON, and the standby transmitter control circuit breaker is ON.

S/C They are both ON.

Cap Com Okay, thank you very much.

Grand Turk LOS Grant Turk.

Cap Com Gemini 7, Houston.

S/C Go ahead.

Cap Com May I have an OAMS prop readout, please?

S/C 4 and 1/2 percent.

Cap Com 4 and 1/2 percent, thank you.

Cap Com Can you give me your sleep report now?

S/C Want our sleep report?

Cap Com Roger, if you have it available, if not we'll wait.

S/C We both had about 5 hours of medium sleep.

Cap Com 5 hours of medium sleep, thank you.

Antigua LOS Antigua

Spacecraft is now crossing over the northeastern part of Africa and it is still on it 203rd revolution. It just passed the Canaries. There was very little conversation there. None with the spacecraft, who are finishing up their eating period and getting ready to do a vision test. But we'll let you hear what Canary said.

Canary Telemetry solid.

Flight Roger, Canaries. Roger, Canary AFD?

Canary Go ahead.

Flight Have any estimate on your radar problem yet?

Canary Negative.. . garbled . . hopefully.

Flight Roger.

Canary All systems are go in Canary.

Flight Roger, Canaries

Canary . . garbled . .

Flight Go ahead Canaries.

Canaries Which beacon is . . garbled . . ?

Flight B entry beacons from now on.

Canaries Roger. . garbled . . biomedical.

Flight Roger.

Canaries Delta P lights is still on.

Flight Roger.

Canaries 45 amp.

Flight Roger.

Canaries Canary has LOS but all systems are GO.

Flight Roger, Canaries.

Flight Your summary is real good Canaries, thank you.

Canaries Roger.

END OF TAPE

This is Gemini Control, 325 hours and 5 minutes into the flight of -- the tail end of the flight of Gemini 7, with just 4 hours, 52 minutes to go before retrofire. About 37 minutes after that, a landing in the prime recovery zone in the Atlantic. The crew has just crossed Australia and are just entering another night in space over the South Pacific. There was brief conversation over Australia, and we'll play that tape for you now.

CRO Cap contact at Carnarvon.

S/C Roger, Carnarvon.

CRO Both Delta P lights are back on now.

S/C Roger.

CRO Gemini 7, Carnarvon Cap Com. We have nothing for you this pass. We are standing by. Everything looks good from the ground.

S/C Thank you, Carnarvon. We're standing by, too.

CRO Roger.

HOU FLIGHT Carnarvon, Houston Flight.

CRO Go, Flight.

HOU FLIGHT You haven't seen any of those Delta P lights off this morning, have you?

CRO Canary has reported one off, I thought.

HOU FLIGHT No. Everybody -- They've been on all night, I think.

CRO OK. Canary's post pass showed BBO4 off.

HOU FLIGHT My apologies.

CRO We have our computer back in business.

HOU FLIGHT Roger.

CRO Looking real good here, Flight.

HOU FLIGHT Roger.

CRO Gemini 7, Carnarvon Cap Com. I would like to know whether you are in an exercise period or whether it's just exercise as a result of your packing up.

S/C That's it. We're all around the ..... putting things away.

CRO Roger. We're starting to have LOS breakup here.

HOU FLIGHT Roger.

CRO Surgeon noted rather high activity rates so we queried them to determine the cause. Then we've had final LOS.

HOU FLIGHT Roger.

CRO Affirm. Real good, Flight.

325 hours, 7 minutes into the flight of Gemini 7. There is very little contact with the spacecraft now primarily because they're getting their final stowage and clean-up taken care of. That activity of stowing gear all over the spacecraft was apparently read out by the surgeon at Carnarvon. This

'nformation is translated to the surgeon by way of telemetry where he looks at his screen and sees the respiratory rates and the heart rates of the astronauts, and determines whether or not they are active and just how active they are. ..... getting good reentry radar track on the spacecraft, getting -- all the stations are getting this kind of information, pumping it in here to Mission Control so that figures can be compiled for the precise retrofire time, which at this minute is still 7:28:12 -- that's Central Standard Time. So at 325 hours and 8 minutes and 6 seconds into the flight of Gemini 7, Gemini Control.

END OF TAPE

This is Gemini Control, 325 hours 20 minutes into the flight of Gemini 7 now in the middle of its 203rd night, in the middle of the Pacific Ocean headed up for a cross, for a cross across Central America. There has been no contact with the spacecraft, of course, since its pass over Carnarvon, inasmuch as it will not reach another station until it connects with Grand Turk Island. You'll hear a lot of talk this morning about platforms, modes, reentry, etc., and we have an idea of how that reentry is going to take place, depends of course upon the pilots and what they choose at that time. Right now it looks like they'll probably power up their platform in about 2 hours and then at reentry time which is 4 hours and 37 minutes from now, they'll go to a blunt end forward attitude, this is with blunt end of the spacecraft in a direction of flight looking back to where they've just been, pitch down with a narrowing down, and in rate command to keep their attitude stable throughout the retrofire. After they reach the sensible atmosphere in the reentry mode on the computer, that's at about 400 000 feet, the computer will inertially, by the encounter with atmosphere and the resultant drag, start to give the spacecraft indications of how it should steer to get to a position on the earth. Translated into geography that position is 01 minutes north by 176 degrees - I'm sorry, that's our retro. The landing position is 25 degrees 24 minutes north by 70 degrees west. And they should reach that particular place at about a half a minute before 8:00 this morning when the parachutes, the drogue parachutes, will come out. The weather in that particular area I just mentioned, according to the Wasp, the prime recovery vessel in that area, is 5/10th's cloud cover, 2 foot waves, 15 knot winds, generally from the west, slightly south of west. The Carrier is steaming toward that position, a westerly course at this very moment. At 325 hours 22 minutes and a half into the flight, this is Gemini Control.

END OF TAPE

Gemini Control at 325 hours 51 minutes into the flight of Gemini 7 now approaching the northwest coast of Africa and is in touch with Canaries. He just passed across Mexico and talked to the stations in the United States, also crossed right over Miami, by the way, and those indications that the fuel cells, which have been talked about quite a bit for 2 weeks, are in very good shape and good for just about another week. They have a GO for 311 revolutions, if they need it on the fuel cells, of course the fuel cells will be in space for a long time after reentry. Let's hear that conversation they had over the States.

TEX Gemini 7, this is Texas Cap Com.

S/C Go ahead, Texas.

TEX We've got you GO here on the ground. We've got a valid oral temperature but do not transmit your blood pressure until Canavaral acquisition at 3 25 36.

S/C Thank you.

TEX We have nothing further. We'll be standing by.

S/C Thank you. Texas, say you're still standing by?

Texas, Gemini 7.

TEX 7 this is Texas. Go ahead.

S/C How about giving us an update on our additional props. What are you reading down there now?

TEX I'll give you a mark on your elapsed time. 325 35 00. Mark.

S/C Okay. We're right with you. Thank you.

SURGEON Hello, Gemini 7. Houston. You're clear to start on your blood pressure.

S/C Coming down.

CAP COM Gemini 7 Houston. I have an initial hack at your GET or BEF if you'd care to have it.

It'll be updated later.

S/C Roger, stand by a second.

SURGEON Your cuff is full-scale.

Gemini 7 Houston Surgeon. Send the blood pressure again. It dropped out.

S/C Roger. Coming down again. Standing by until the initial RET or BEF.

SURGEON Your cuff is full-scale.

CAP COM I'll give it to you after the medical data pass, Jim.

S/C Rog.

SURGEON That's a good one, Gemini 7. Your exercise now.

S/C Rog.

SURGEON It's full-scale.

That's a good one. We're standing by for your food report first.

S/C Roger. Food this morning was Day 9, Meal A, for both of us. Plus the Command Pilot had 3 peanut cubes last night for an evening snack.

SURGEON Roger, did you have supper last night? Have a full meal?

S/C Oh, you didn't get that one, sorry. That's Day 11, Meal C.

SURGEON 11 Charlie last night plus 3 peanut cubes for the Command Pilot. Now do you have any deletions this morning for breakfast?

S/C No, we ate the whole thing.

SURGEON Roger. Water report.

S/C Roger. The Command Pilot now has 11 0/4 ounces.

SURGEON Roger. 1104.

S/C And the pilot 948.

SURGEON 948, and the Gun count.

S/C The gun count is now 4876.

SURGEON 4876. And I'll copy the columns.

S/C Roger. For the pilot column 5 - 34. Column 6 - 7. For the Command Pilot, 5 - is 34 and column 6 - 8.

SURGEON I roger that.
Do you have anything else you want to talk to me about this morning?

S/C Chuck, we need to talk about taking these dexadrine pills. Hey, when do we take those?

SURGEON You don't have it all squared away with respect to time, eh Frank? Gemini 7, Houston Surgeon. Are you requesting a time to take them?

S/C Roger.

SURGEON All right. You should take them about 2 hours before retrofire.

S/C Thank you. Is that 3 or 4 each?

SURGEON Say again.

S/C Three or 4 apiece?

SURGEON One each.(Laughter)

S/C Okay.

SURGEON Roger, Frank.

CAP COM Gemini 7, Houston.

S/C Go ahead.

CAP COM Roger. Your first hack at a GET of retrofire will be 329 58 05. And we'll give you a later updates based on new tracking information.

S/C Roger. Understand our first hack it'll be 329 58 05.

CAP COM That's right. And when you get your batteries on line you can inspect to see about a 2-volt drop in your voltages. It'll stabilize out a little bit, then wander in slightly as each shares its part of the load.

S/C Roger.

CAP COM For your information EECOM tells me that the fuel cells are GO for 311 dash 1.

S/C We each got 2 delta P lights unresponding now. (Laughter)

CAP COM Okay. We'll tell him that.

S/C Right.

GRAND TURK LOS Grand Turk.

ANTIGUA LOS Antigua.

This is Gemini Control here at 326 hours 20 minutes into the flight of Gemini 7 now approaching Carnarvon exactly in the middle of the Indian Ocean but Carnarvon should pick it up very shortly. After the crew status check on the pilot there'll be a report on his condition, they'll start their power-up check list. Then they will - over the Carnarvon pass and after the Carnarvon pass will be powering up, bringing the 4 main batteries on line. Their primary and secondary pumps will be turned on. The A pumps and the primary and secondary B pumps OFF. Then the three squib batteries - batteries which trigger pyrotechnics aboard the spacecraft for separation and retro and so forth will be brought out and the spacecraft will be configured for - pretty much for reentry. Pilots have pretty well completed their stowage although they're still in that period of activity. It's day time where they are now over the Indian Ocean and as they are almost half way around the world - half way through with their 204th revolution with just - with over two revolutions to go, this is Gemini Control.

END OF TAPE

This is Gemini Control, 326 hours and 39 minutes into the flight of Gemini 7. We just passed Carnarvon. It was a very brief conversation there. Let's hear it.

CRO Gemini 7, Carnarvon Cap Com. We have a valid temperature, we're standing by for a blood pressure.

S/C Coming down.

CRO Gemini 7, your cuff is full-scale.

Gemini 7, we have a valid blood pressure. Standing by for your exercise.

S/C Just one minute.

CRO Carnarvon standing by.

S/C Mark.

FLIGHT Your summaries look good, Carnarvon.

S/C Blood pressure coming down.

CRO Thank you.

Gemini 7, your cuff is full-scale.

Gemini 7, we have a valid blood pressure. Carnarvon Surgeon out.

S/C Thank you, gentlemen.

CRO Roger.

And everything looks good from the ground.

S/C All right. Things looking good up here, too.

CRO Roger. Only about $3\frac{1}{2}$ hours to go, huh?

S/C Righto! The carrier will feel good.

CRO Roger.

Everything still looks good here, flight.

FLIGHT Roger.

CRO We have LOS.

More than half-way through rev 204, Gemini 7 is now once again entering a night pass across the Pacific Ocean, headed toward the United States. They did not power-up their platform. The platform-power up is scheduled about an hour from now. The beginning of the power-up checklist procedure is going on right now aboard the spacecraft, they are just about through stowing, according to the flight plan. At 326 hours 41 minutes exactly into the flight, this is Gemini Control.

END OF TAPE

Gemini Control at 327 hours 20 minutes into the flight of Gemini 7, now crossing the Atlantic towards Canary Islands. They're in contact with our Houston Station right now, beginning their 205th revolution, which comes out to 218 orbits. Apogee on this flight right now is 164.3 miles and perigee is 158.2 miles. They'll fire their retros in about $2\frac{1}{2}$ hours, somewhere between apogee and perigee over the Pacific Ocean. Meanwhile, let's tune in on some Texas conversation.

GYM Guaymas has solid TM and all systems are GO.

FLIGHT Roger, Guaymas.

How's it look, Guaymas.

GYM Looks real good.

GYM Gemini 7, Guaymas Cap Com. Everything's looking good here on the ground. We'll be standing by if you need us.

S/C Thank you, Guaymas.

TEXAS GO REMOTE

TEXAS REMOTE

CAP COM Gemini 7, Houston.

S/C Go ahead Houston. This 7.

CAP COM Uh, Roger, Gemini 7. Would you start your purge, please.

S/C Stand by.

Purging no. 1

CAP COM Roger, purging no. 1

S/C Houston, this is 7. If I can't align well BEF with this OAMS I'm going to use the RCS A-ring

CAP COM Gemini 7, understand. You'll be using your RCS A-ring for platform alinement.

S/C Roger, if the OAMS doesn't work out.

CAP COM Yeah, that's right.

S/C Purge complete, Houston.

CAP COM Roger, understand. Purge complete.

You're clear to start your power-up and alinement checklist up to and including platform cage BEF.

S/C Roger.

CAP COM And I have someone here that would like to say "good morning" to you.

S/C Very well.

CAP COM Gemini 7, Houston.

S/C Hi, Bud. How are you?

CAP COM How you doing?

S/C Pretty good.

CAP COM Understand you're up early again.

S/C Just a little.

(garbled)

CAP COM I figured you would be.

I sent a message out to the Skipper of the Carrier. I asked him to move off just a little bit to the left of the spot so you wouldn't put him in jeopardy.

S/C Right. We'll have a go at it.

CAP COM You bet.

How's all the stowage going?

S/C The cockpit's clean as a whistle!

CAP COM Right. I'll bet it was clean last night.

S/C No. We did it this morning.

CAP COM Right. Would you go ahead and start your power-up and alinement checklist.

S/C Starting it now.

Just got the ..... on the line now .....

CAP COM Gemini 7, thank you very much.

You're reading our minds!

S/C Four main batteries coming on.

Four mains are on.

CAP COM Roger, roger.

S/C Just turned that tape recorder circuit back on. It really quits instantly.

CAP COM Thank you very much

ANT Acquisition, Antigua.

CAP COM I'll bet you feel you know the world between 28 North and South latitudes pretty well about now, don't you?

S/C I just put in for a guide at North Africa.

CAP COM The fellows on 6 said you gave them a pretty good guided tour.

S/C Does the time-line you gave us last night still hold for the starting the platform warmup?

CAP COM You're clear to start it now, Frank.

S/C Platform on warmup now also.

Okay. Thank you.

CAP COM Frank, we'd like you to wait that delay-time but you're clear to start into that 20 to 25 minutes delay now.

S/C Rog.

We've got it on CAGE BEF now, to warm up.

CAP COM Roger.

That other voice you heard was that of Astronaut Ed White who walked in space during the Gemini 4 mission. He's the backup Command Pilot, backup to Frank Borman. We just heard some more conversation during that U.S. pass - there was a pause but there was some more conversation and Frank Borman advises that he has got thrusters 3 and 4 working again and is going to use his OAMS system, his OAMS attitude system to aline his platform. Let's get into the rest of that conversation.

CAP COM On the cover of the Houston Post this morning, Frank and Jim, there's a great picture, in color, of Gemini 7 spacecraft.

S/C Very good.

CAP COM It's really beautiful.

S/C (garbled) ... in Russia

CAP COM Great.

S/C Say again.

CAP COM Looks real good.

S/C Okay. Ask EECOM if they care if we try this 3 and 4 thrusters this morning to see if I can get any impulse out of them on the final line.

CAP COM Say again, Gemini 7.

S/C I said I'd like to try the 3 and 4 thrusters this morning to see if I can get any impulse at all out of them for the final aligning.

CAP COM Roger. We'd like it if you would try them individually, putting 3 on the line and attempt a minimum 3-second pulse, if you can. And then take it off line and then try 4 individually in the same method. We'd appreciate it if you would do it on the next, well, over a site so we can get TM on it.

S/C Right.

CAP COM Can you do it right now and we'll get TM through Bermuda.

S/C Roger. But I don't want to do it direct, I'll just do it in PULSE.

CAP COM Okay. Do it anyway you care to do it.

S/C Number 4 on the line now, flight?

CAP COM Roger, 4.

S/C We're getting a low .watt from it.

CAP COM Roger

S/C Three is all right.

CAP COM Three is all right?

S/C Three is 436.

CAP COM Roger.

Gemini 7, Houston. How did thruster 4 look to you?

S/C It looks pretty good. If it wasn't for 3 I think I'd be able to use 'em for final aligning of the platform.

CAP COM Oh, swell!

You heard it! Flight Director John Hodge said "if you can get the tape recorder working maybe we'll get a 4.0." That's like an A in school. This is Gemini Control, 327 hours $26\frac{1}{2}$ minutes into the flight of Gemini 7.

At 327 hours 41 minutes into the flight we had some converstion over Kano and Canaries and here it is.

Canary — Gemini 7, Canaries, we have nothing for you. We are standing by.

S/C — Thank you Canaries. . . garbled . .

Canary — Yea, we finally got a lucky . . garbled . .

S/C — How did you do that?

Canary — . . garbled . .

S/C — (laughter) . . garbled

Canary — . . garbled . . just a little.

S/C — . . garbled . .

Canary — . . garbled . .

Flight — Could we have a mid-pass A summary from you Canaries?

Canary — Roger.

Flight — Kano go remote.

Kano — Kano remote.

Canary — Canary

Flight — Go

Canary — Roger. Could we put 2C back on the line?

Flight — Negative, that's the battery . . garbled . . just remember how you worked that out.

Canary — All right, roger . .. garbled . .

Flight — Okay.

Canary — . . garbled . .

Flight — Roger, everything okay.

Canary — Yes sir, everything looked good at LOS.

Flight — Was he still warming up?

Canary That's affirmative, Flight. . . garbled. . deviations in our attitude here on the ground.

Flight Roger.

Canary . . garbled . .

Flight Your LOS summaries are good.

Canary Roger.

Flight See you next time.

Canary One more pass.

Flight Right

Flight Gemini 7, Houston.

S/C Go ahead Houston.

Flight Will you tell me how long you've been on the adapter antenna?

S/C . . garbled . . powered up.

Flight Roger, Can you tell me - give me a hack when you turn your computer on,or when you did turn your computer on?

S/C Computer is not on.

Flight Roger. If we still have acquisition will you give me a hack when you do turn it on.

S/C . . garbled . .

Flight Okay, real swell.

Gemini Control at 327 hours 44 minutes into the flight. Less than two revolutions to go - Two and three quarter hours or three hours till splash.

END OF TAPE

Gemini Control here at 328 hours 13 minutes into the flight of Gemini 7. Now more than half way through its 205th revolution, having just passed Australia's Carnarvon station, where they powered up the computer - or rather they brought the computer on line. It will be warming up now. Let's here some of that conversation at Carnarvon now.

AFD Carnarvon Cap Com, AFD.

CRO AFD, Carnarvon, Go ahead.

AFD Roger, did you receive any of our MI.

CRO That is affirmative.

AFD Roger, we will stand by for your pass.

CRO Roger. Carnarvon has TM solid.

AFD Roger.

CRO I have an update for you on your bank angle versus RN minus RP curve for area 207-1 when you are ready to copy.

S/C Roger. Stand by. Go ahead.

CRO The bank angle 0 degrees, RN minus RP plus 159.0. Bank angle 49.5, RN minus RP 0, bank angle 90 degrees, RN minus RP minus 192.5.

CRO C-Band track at Carnarvon.

CRO Did you copy.

S/C Roger. Okay, we'll ... (garble) platform aligning but we will go ahead and proceed with the checklist if it is okay with the checklist if it is okay with you, or do you want us to wait some more.

CRO Standby. Did you copy Flight. You want them to go ahead with their checklist.

AFD Roger.

CRO Roger, go ahead. Give us a mark when you turn your computer

S/C Okay. Turning on computer now.

CRO Roger.

Flight Can we have a class 2 main now, please.

CRO Roger, Flight.

Flight Ask him how that thruster is making out.

CRO Repeat Flight.

Flight Ask him how 3 and 4 thrusters are making out, is he using them.

CRO Roger. Gemini 7, Carnarvon. How is thruster 3 and 4 making out.

S/C Adequate for alining the platform. I used the maneuver thruster for drift until I get it close and then I can use 3 and 4 for ... (garble) thrusting.

CRO Roger, copy.

Flight Very good.

S/C We should have a well alined platform now.

CRO Roger. He is looking real good here on the ground, Flight.

328 hours and 16 minutes into the flight. Elements of the Red Team are already beginning to filter into the Control Center. Elements of the Red Team include Chris Kraft, Flight Director for the Red Team and Dr. Berry both with him on the floor with members of the Blue Team. At 320 hours 16 minutes into the flight of Gemini 7, This is Gemini Control.

END OF TAPE

This is Gemini Control at 328 hours and 20 minutes into the flight of Gemini 7 with less than an hour and 40 minutes to go till retrofire time which should take place about this time or at least this place on the next revolution ..... 205th revolution over the Atlantic -- over the Pacific, and over the Pacific again on the 206th revolution the retrofires will be fired. Right now that retro tim is 13:28:06 ZULU which comes out 7:28:06 CST. Splash-down should occur at 8:05:23, so at 328 hours, 20 minutes into the flight of Gemini 7, this is Gemini Control.

END OF TAPE

This is Gemini Control at 328 hours, 25 minutes into the flight of Gemini 7, which is now passing just south of Canton Island in telemetry contact with the station, but there has been absolutely no voice communication between the ground and the spacecraft. The retro officer has just come up with another set of retrofire times. These times do change by seconds. The time of retrofire elapsed time for the spacecraft is 329 hours, 58 minutes and 4 seconds into its flight. At 7:28:07, the retros will be fired. That's Central Standard Time. The spacecraft should begin blackout period -- the communications blackout period at 7:52:42 and end that communications blackout period at 7:57:45. The drogue parachute is programmed to come out at 7:59:24 CST. That's at 50,000 feet with the main due to come out at 7 -- 8:01:07. That's one minute after 8:00. Splashdown is scheduled to occur at 8:05:28 in the Atlantic Ocean about 500 miles east southeast of Cape Kennedy -- 590 miles east southeast of Cape Kennedy -- 500 miles south southwest of Bermuda. That's where the aircraft carrier Wasp is going to be on its station any minute now. Its steaming in that direction from the west. At 328 hours, 27 minutes into the flight, this is Gemini Control.

END OF TAPE

Good morning. Gemini Control here. In this last pass across the States, Cap Com Charlie Bassett is giving 7 its final update, Stateside update at least, and let's cut in there and listen to what's going on.

S/C Roger, Houston.

Cap Com Roger, next core is 66.

S/C Got it.

Cap Com 39583 that is the number for 66.

S/C Roger.

Cap Com Core 07 62 60 2.

S/C Roger.

Cap Com Core 08 40 94 1. Gemini 7, Houston. Did you copy core 07.

S/C Roger. I have core 07, and 62 60 2, you cut out after that.

Cap Com Roger, core 08, 40 94 1.

S/C Roger.

Cap Com Core 09 14 36 2.

S/C Roger.

Cap Com Core 10 0 25 23.

S/C Roger.

Cap Com And core 11 is 290 00, request a readback.

S/C Roger, core 03, 61 618, core 04, 39 008, core 65 00 165
core 66, 39 583, core 07, 626 02, core 08, 408 409 41,
core 09, 143 62, core 10, 02 523, core 11, 29 000.

Cap Com Roger, I'd like to give you core 08 again.

S/C Roger,

Cap Com Core 08 is 40 941.

S/C Roger, I copied, 40 941.

Cap Com That's affirmative Gemini 7. I have your nominal IVI's.

S/C Stand by. Go ahead.

Cap Com Gemini 7, we are sending the TR and the update.

S/C Have received.

Cap Com Roger, received. DCS loads coming. Gemini 7, we have received maps and I'm ready with your nominal IVI's.

S/C Roger, go ahead.

Cap Com Aft, 296, left right is 0, and down is 113.

S/C Roger, IVI's, aft 296, left right 0, down 113.

Cap Com Roger. I'm passing you to Surgeon now.

Surgeon Gemini 7, I'd like to confirm the time of the dexedrine.

Cap Com We didn't take any Chuck.

Surgeon Roger, okay, we'll wait. Frank, if you will pass that to us sometime when you do. Second item, remember the blood pressure we want on Pilot over Guaymas after Retrofire, on Pilot over Guaymas after retrofire.

S/C Roger.

Surgeon Item 3, we want to remind you again about the actions you can take, Frank and Jim, in the spacecraft on descent or in the water as far as elevating your feet and pumping your calves if necessary, and you will have to decide as to whether these are necessary. In spacecraft 6, the crew was warm on the water, it was very calm, there was no nausea or anything, but they were warm and stayed in their suits, however, we do prefer that you stay in your suits as you know, but, it is strictly Pilot's choice depending on the situation.

S/C ... (garbled) ... Houston.

Cap Com Houston, Gemini 7 go ahead.

S/C Jim and I would prefer to get out of the spacecraft as soon as possible after we are on the water, then we can wait to be hauled on a ship if we do land happen to land close to them.

Cap Com Gemini 7, understand. Gemini 7, Houston. I have some more for you. When you are through with the RCS system would you motor off ring B and dump the lines.

S/C Roger.

Cap Com And please make every attempt to keep us informed on what you are doing and how your trajectory looks to you through the reentry.

S/C Roger.

Cap Com I have some forecast weather for you for the recovery area. It is about 6 tenths cloud cover with the lowest layer at 2000 feet, and that layer is about 3 tenths coverage. The visibility is 10 miles and the winds are 280 at 14 knots. We have about 1 to 2 foot seas there and the barometer is 29 98.

S/C Understand the altimeter setting 29 98.

Cap Com That's affirmed Gemini 7. Incidentally, we put your initial conditions into a ground computer solution and they look real good.

S/C Good.

Cap Com We would like to have a final water count from you prior to your retrofire so we can get a cg determination. We would like to have that as soon as possible.

S/C All right, well we will give you a count now and then allow about 5 ounces for each person after that.

Cap Com Okay, a count now then 5 ounces for each person.

S/C Houston, ... (garbled) all look good.

Cap Com We verify it also.

S/C Roger.

Cap Com — Incidentally, do you recall the OAMS squib test that was preformed on GT-5. If you do, you might consider running that, but that will be pilot's option.

S/C — We don't even know what it was.

Cap Com — Roger, it amounts to blowing the OAMS squib on the regulator and pulsing it a few times to see how well you can control the pressure as well as determining whether or not you can hear that squib blowing.

S/C — I remember that test now.
Okay, the gun reading now is 4932, and we will each have 5 ounces more before retro, so it will make it add 20 to that.

Cap Com — Roger, understand. It is 4932 and you will each take 5 ounces before retro.

S/C — Roger.

Antigua — Acquisition Antigua.

Cap Com — Gemini 7, Houston. We'll be remoting through Canton for your retrofire, so we will be in touch with you then.

S/C — Okay, ... (garble) Elliot or who.

Cap Com — Elliot will be making the count.

S/C — Okay.

Cap Com — Gemini 7, Houston. Your TR is correct as verified on the ground.

S/C — Hello Houston. How are you.

Cap Com — Just fine, how are you.

Cap Com — Gemini 7, Houston. We took some pictures of the GT-6 shots of you guys over to the wives last night and they really thought they were great.

S/C — Thank you. We now have a real .. (garble) alined platform.

Cap Com Very good.

Flight We concur with that.

S/C I can recommend ECP's for degraded thrusters for a final alinement of the platform.

Cap Com Roger. Gemini 7, we got a request for you to fix the tape recorder the same way.

S/C Roger, abracadabra.

This is Gemini Control Houston. That apparently wraps up the conversation -- here goes Elliot once more.

Cap Com ..... music coming up for you now, if you will turn in on HF.

S/C We are listening.

END OF TAPE

This is Gemini Control, Houston. The update is continuing at Canaries. One other piece of information, one of the happier people in this room this morning is one of our retrofire officers, Johnny Bostick, whose wife presented him with a baby yesterday afternoon. Mr. Bostick is quoting the time of the birth, of course, in retrofire language. He calls it 22 hours 18 minutes 18 minutes Greenwich Mean Time, he also has it worked out in ground elapsed time into the mission, 314 hours 48 minutes and 57 seconds. The name of the baby is Christie Ann. This is Gemini Control.

MUSIC FROM HOUSTON

"I'LL BE HOME FOR CHRISTMAS"

"GOING BACK TO HOUSTON"

END OF TAPE

This is Gemini Control in Houston, 329 hours, 11 minutes into the flight of 7. 7 has received its final updates -- getting all of the backup values should anything fail with its electronics aboard which would require the pilot to take over and disregard any signals coming from the computer and other elements -- onboard elements giving the values as they come through this retro period. They are also saying their goodbys to the stations as they make the final loop around the range. And listening to some music, they asked that it be repeated at least once now. The music started playing as we left the states for the last time. The tunes are "I'll be Home for Christmas" and "Going Back to Houston." This is Gemini Control at Houston. We have the tape from the Canary station. We'll play it for you now.

CYI Canary Island Station. Gemini 7, Canary Cap Com. Let's check that tape.

S/C Go ahead, Canary.

CYI OK, put the quantity read switch to ECS O_2.

S/C OK.

CYI Copy did you copy those four updates.

S/C Yeh, we got them.

CYI OK, at retrofire, got the one about Diphda?

S/C Yep.

CYI What about tank up?

S/C No.

CYI OK. Tank up, 12.0 degrees up, 14.4 degrees left.

FLIGHT I don't think you got Diphda either.

CYI What about Diphda?

S/C ....

CYI OK, at retrofire, Diphda at 14.3 degrees up, 10.6 degrees right.

S/C Roger. Thank you.

CYI OK. Would you place you quantity read switch to fuel cell O_2?

FLIGHT Spell that star for him, Canary.

CYI Say again.

FLIGHT Spell that D-I-P-H-D-A for him.

CYI OK. That star Diphda is D-I-P-A-D-A.

FLIGHT H-D-A.

CYI H-D-A.

S/C Also known as .....

CYI Wow! How about quantity read switch to H_2? Can you read HF?

S/C No, we couldn't read it.

CYI You couldn't?

S/C No. It sounded like an air raid siren.

CYI You want me to sing it for you?

S/C Yeah.

CYI I'll be home for Christmas. Is that better?

S/C Very good.

CYI OK. Quantity read switch to off. You look good on the ground. We picked you up the first pass, first rev, last pass, last rev. See you back home.

S/C Very good. Thanks a lot.

HOUSTON You lost your vocation, Canary.

CYI First pass remote site.

HOUSTON Tell him the other song was "Going Back to Houston."

CYI "Going Back to Houston"? I didn't even hear that one.

HOUSTON That was the second one.

CYI The second song was "Going Back to Houston".

S/C Very good.

CYI I don't know how to sing that one.

S/C Me neither. It's a good one though.

CYI OK. Lost my sync, Flight.

FLIGHT Tell them to tune in HF again. We'll give them a replay.

CYI Gemini 7, tune in HF again. We'll give you a replay.

S/C It's in. Go ahead. Our HF must be weak.

FLIGHT Tell them it's not coming yet. Stand by.

CYI Not coming in yet. Stand by.

S/C OK.

CYI There it is.

FLIGHT Can they read it?

CYI Can you read it?

S/C No.

CYI I sounded better anyway. All systems are looking good at Canary.

FLIGHT Roger.

HOUSTON Kano, go remote.

END OF TAPE

This is Gemini Control, Houston. We've had no conversation via Kano; none yet via Tananarive. And, none reall is expected at Tananarive. There will be additional conversation at Carnarvon; sure the clocks will be sinced again for the final time. Earlier this morning, all the values for this re-entry were taken from the crew on board; and they were run through our real time computing complex here on the ground. This distance came out to be something slightly over one mile. These were using Spacecraft 7 readings. That certainly validates the numbers they have in the computer right now. We're very hopeful that they will come within less than 12 miles; and thereby stand chance to collect a bet from Wally Shirra and Tom Stafford. Their mis-distance is 11.8 miles. At 329 hours, 22 minutes into the flight, this is Gemini Control.

END OF TAPE

Only a minute or so ago, Elliot See did contact 7 as it went over Tananarive. He reminded them that the 6 crew the other day got a little jolt when the spacecraft flipped down the main chute; and the crew on 7 advised that they are ready and they will be braced for any unexpected shock, which certainly isn't going to be unexpected if they get it. Down in the recovery area, we've got 8 communications aircraft in that area. They have radar equipment aboard; and they also can rebroadcast continuous conversation. They're outlining our basic landing footprint, which is about 200 miles long and 50 miles wide. Their spread runs on up to about 80 miles. Also, in the area are 3 ships. The WASP, of course the primary carrier; the USS Waldron which is the destroyer running very close to the WASP; and the USS Power which is some 100 miles or so down range from the WASP. Here's the conversation over Tananarive.

HOUSTON Gemini 7, Houston. How do you read?

S/C This is 7. Read you loud and clear.

HOUSTON Roger. I don't believe it's been mentioned to you yet; but GT-6 experienced a little surprise when they went to landing attitude on the main chute. Apparently, it was about the same as GT-3. So, you might be ready for that.

S/C We'll be all braced.

HOUSTON Roger. Tried to watch for you again this morning; but we had the same weather we've had, overcast and raining.

S/C It's beautiful up here. No clouds.

HOUSTON I believe it.

S/C The pre-retro check list is complete, Elliot.

HOUSTON Pre-retro check list complete. Roger. Gemini 7, how do the RCS rings look?

S/C They're fine.

HOUSTON Yea.

S/C Can you give me a slip...(Gargle)...

HOUSTON Did you ever copy our HF?

S/C No. He didn't get around to HF. ...(gargle)...Canary

HOUSTON Roger.

END OF TAPE

This is Gemini Control Houston at 329 hours, 31 minutes into the flight of 7 and we're about five minutes away from acquisition by the Carnarvon station, the last acquisition for Carnarvon during this mission. Everything will checked and rechedked as far as times. Retrofire this morning should take place over the Equator about 3,000 miles east of the Philippines. The Canton Island Station should monitor that sequence. Then the crew some 36 to 37 minutes later should splashdown at a point 690 miles east of the Cape or about 10,000 miles from their retrofire point. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control, Houston. 329 hours, 41 minutes into the flight. The weather in the recovery area this morning is 3/10 cloud cover, waves 2 to 4 feet, water temperature is 78 degrees, winds from the west varying from 8 to 15 knots. The WASP is aiming point which 70 degrees west and 25 degrees, 23 minutes north. Seven is over Carnarvon for the last time; and let's listen to that conversation.

CSQ All systems are go. Flight, CSQ. Flight, CSQ. Flight plan indicated...(faded)...1310 left starboard...(faded)...flight plan is tracked. It should be out...(faded)...I got up a Surgeon. I assume...(faded)...

S/C Negative.

CSQ Gemini...(faded)...Could you put your bio-med recorder...(faded)...

CRO Carnarvon has TM solid.

HOUSTON Roger, Carnarvon.

S/C Carnarvon, 7.

CRO Go ahead, Gemini 7, Carnarvon.

S/C Roger. Do you give us a 20 minute time hack for our event timer?

CRO Roger. Set your event timer 20 minutes, and I'll hack you up.

S/C Thank you. ...(garble)...re-entry in the computer.

CRO Roge.

HOUSTON You show re-entry mode?

CRO That's affirm, Flight. C-Band track, Flight.

HOUSTON Roger.

CRO 10 seconds, 3, 2, 1, mark it 20 minutes.

S/C Roger. Counting down.

CRO Would you like a GET time?

S/C Roger.

CRO Okay, I'll give you one at 329 hours, 38 minutes, 25 seconds. Mark. Did you copy?

HOUSTON Still there, Carnarvon?

CRO Repeat, Flight.

HOUSTON I just wanted to make sure you were still there.

CRO Roger. He's looking good.

HOUSTON Did he roger your GET hack.

CRO That's negative. I'm going back to him. Gemini 7, Carnarvon. Did you copy out GET time hack?

S/C Roger. I read out, thank you.

CRO Roger. You're looking good here on the ground.

HOUSTON How's the computer look?

CRO We didn't get a print out on the computer, Flight. He switched to re-entry before we could get it.

HOUSTON Roger. Understand.

CRO TR is in sinc.

HOUSTON Roger that.

CRO You getting our summaries, Flight?

HOUSTON Affirmative.

CRO Roge. Everything still looks real good here, Flight.

HOUSTON Roger. Send us another main, Carnarvon.

CRO Roger.

END OF TAPE

This is Gemini Control Houston 329 hours, 46 minutes into the flight and at this time the surgeon here in Houston is talking to the surgeon aboard the Wasp, Dr. Charles Berry here in Houston and conversation with Dr. Minners. Bringing Dr. Minners up to date on their physical status. He is advised that the command pilot, Frank Borman yesterday consumed 4.6 pounds of water, he's had one pound of water to drink this morning. Jim Lovell he says has had 5.2 pounds of water yesterday, and he too, drank one pound of water so far this morning. There's been discussion back and forth with the crew this morning on the subject of whether they were going to take a dexidrene stimulant before retrofire. The Houston surgeon here assumes they did not take any dexidrene. It had been debated both ways. The Canton Islands Station is due to acquire 7 at 26 minutes after the hour, 26 minutes 40 seconds and that station should monitor through the retrofire, which is to occur a little more than 28 minutes after the hour. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston at 329 hours 52 minutes into the flight. We have had no additional conversation with the crew since they left Australia, and we are in a situation simular to that of the rendezvous. We feel here on the ground all the values have been checked and rechecked, and we feel they are accurate and just as it the case the other day, we now feel that it is up to Frank and Jim. The maneuver is done onboard and we will, of course do anything possible as they come across the States if they need any additional values they will be available, but they already have manual backup angles which they can use if necessary. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control Houston, Canton Island acquired the spacecraft about 30 seconds ago and Elliot See has established voice communications with Frank Borman. He advised that he is cleared for retrofire. Canton Island should hold the spacecraft in contact some 7 to 8 minutes and there will be a 2 to 3 minute gap between there and Hawaii. Hawaii should hold them for 5 to 6 minutes. 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, retrofire.

(pause)

All quiet on the line.

(pause)

Borman confirm retros have fired. He said 4 retros fired. Elliot See says we are standing by for IVI's and lets listen as Frank Borman calls it out.

S/C Retrojet.

Cap Com Roger, retrojet.

Cap Com Gemini 7, Houston. Would you confirm the IVI readouts again.

S/C Roger, IVI readouts, 280 aft, 003 left, 112 bow.

Cap Com Roger, very good.

That was Jim Lovell calling out those incremental velocity indicator readings. And they are right on the nominal, they brought some big smiles here in the Control Center on the face of Chris Kraft, Deke Slayton, and others, standing here monitoring this conversation.

(pause)

Gemini 7's altitude at the time of retrofire would have been about 157 miles high at a point on the equator about 3000 east southeast, 3000 miles east southeast of the Phillipines. They are due to reach the 400,000 foot mark at 49½ minutes after the hour. At that time, they will be over the Rio Grande River, about 300 miles northwest of Monterray, Mexico. The blackout period will begin at 52 minutes 42 minutes after the hour. Elliot See is engaging in a little facetious questioning of 7, he has asked them if the delta P lights were out and of course the adapter section with those fuel cells

left the spacecraft just prior to retrofire, and Borman confirms that, in fact, the delta P lights which have been on most of the period of this 14-day flight are indeed out. The spacecraft will emerge from blackout at 57 minutes 45 seconds after the hour and Hawaii now has put in a call to 7. Let's listen.

S/C Aft is 299 now.

Hawaii Is that what it was at retrofire.

S/C 298.

Hawaii Roger, copy.

Flight What is the rest of them.

HAW Okay, give me your left and your down at retrofire.

S/C Left is 3, down is 112.

HAW Okay, we copy that. How are you doing.

S/C Fine.

HAW Okay, attitude at retrofire.

S/C Say again.

HAW What were your attitudes at retrofire.

S/C Nominal.

HAW Auto or manual retro.

S/C Auto.

HAW All retros fired normally.

S/C All retros normal.

HAW Okay, very good. You are looking real good. Your RCS seems to be holding real well, your secondary 02 is right in there.

HAW He is in reentry.

Flight Would you give us an AOS and LOS main, please.

HAW Will do, Flight.

This is Gemini Control. We should be getting a summary of the values onboard now coming in from Hawaii. Chris Kraft has asked for it.

Entirely satisfied with the retro maneuver and all events up to this point. Hawaii is reading out the temperatures of his rings out in the forward nose of the section. Hawaii wraps up this summary by saying he is looking real good. And in some 6 minutes we should acquire the spacecraft via Guaymas, Mexico as it begins its let down over the States.

(pause)

This is Gemini Control Houston.

END OF TAPE

This is Gemini Control, Houston. 330 hours, 9 minutes. And, we have at this moment conversation via the Hawaii Station as Borman and Lovell whiz by there, east of it. Their altitude now is down to about 100 miles. And, let's listen in as this conversation takes place.

HAW Okay. Attitude's at retro-fire?

S/C Say again.

HAW What were your attitudes at retro-fire?

S/C Nominal.

HAW Auto or manual retro?

S/C Auto.

HAW All retro's fired normally?

S/C All retro's normal.

HAW Okay. Very good. You're looking real good. Your RCS seems to be holding real well. Your secondary 02 is right in there. He's in re-entry.

HOUSTON Give us an AOS and LOS main, please.

HAW Will do, Flight. Okay, Flight. His Ring A is 2275. Ring B 2375. These are meter readings.

HOUSTON Roger.

HAW He's looking real good. You're looking real good down here.

S/C Roger.

HOUSTON What is your main bus voltage, Hawaii?

HAW 23.9 on the meter.

HOUSTON Roger that.

HAW Not too much RCS activity; a little yaw. Are you ready for a GET time hack? A plus count.

S/C Roger.

HAW Okay. Set up 7 minutes and 30 seconds; 7 minutes and 30 seconds on my mark. 5, 4, 3, 2, 1, mark.

S/C Roger.

HAW Okay. Flight, Hawaii.

HOUSTON Go ahead, Hawaii.

HAW Okay. His 12-18 read outs: 2250 Ring A, 2350 Ring B. Looks real good. Main bus voltage 23.8.

HOUSTON Roger.

HAW Your RCS is holding real good. Your main bus voltage is reading 23.8. Real fine.

S/C Roger. We just came on with the second C. Band.

HAW Say again.

S/C I say we just turned C-Bands 1 and 2 on.

HAW Roger. You need back up guidance computed, Flight?

HOUSTON Negative that.

HAW Okay.

HOUSTON We'll wait until we get some States data in.

HAW Roger. You're holding it real good here on the ground.

S/C Thank you. ...(garble)...

HAW Say again.

S/C We still don't have much of a horizon.

HAW Roger. He shouldn't have a daylight horizon, shouldn't he?

HOUSTON Stand by on that. It'll be after 350,000 before he has a lit horizon.

HAW You'll be below 350K before you have a lit horizon.

S/C Thank you.

HAW And, as you come up toward my LOS, you're looking real fine. We'll be seeing you.

S/C So long, Hawaii.

This is Gemini Control, Houston, at 330 hours, 13 minutes into the flight. That wrapped up the Hawaii conversation. Within a minute or two, we should have acquisition via Guaymas. The present altitude down to about 85 miles. Still no acquisition at Guaymas. It is due at 44 minutes, 50 seconds after the hour. One minute from now.

END OF TAPE

California has acquired. He has advised the Flight Director that everything looks go on the ground. There has been no voice conversation. The Guaymas Cap Com has just advised 7 that they are ready to take a blood pressure reading on the Pilot, Jim Lovell, and Lovell apparently isn't quiet ready to give them the blood pressure reading.

(pause)

Guaymas is advising 7 that he should observe a lit horizon at 61 nautical miles. That will be just before they go into the blackout period.

(pause)

This is Gemini Control, still no conversation. Some of the blackout times, some of the other events are being adjusted slightly, all are staying within a few seconds of the planned value. No change greater than 20 seconds. And we can hear the aircraft out in the Atlantic going through communication checks. They are blasting in here loud and clear today.

(pause)

Now the Texas station has been remoted. We are down to about 60 miles altitude.

(pause)

And we are coming up on the 400 000 foot mark. 400 000 feet altitude with the spacecraft approximately over the Rio Grande River, 300 miles northwest of Monterray, Mexico.

(pause)

END OF TAPE

Elliot See is in contact with the spacecraft now. Let's try to catch the tag end of this conversation.

HOU CAP COM That is correct, bank left 35 bank right 45.

We're coming up on the blackout point. The point where we're about 45 miles altitutde. We have one report of blackout beginning here now. Spacecraft about 150 miles east of Houston and this is where the velocity slumps off dramatically. They begin the blackout point and they're moving in the velocity of over 17000 miles an hour and about 5½ minutes later, they emerge from the blackout area and their velocity is slumped down to about 5700 miles per hour.

Our next voice contact should be at a point 3 or 400 miles south of Nassau that's the spacecraft location point. and due about 57½ minutes after the hour.

(pause)

This is Gemini Control, based on a very preliminary look at the computations on Hawaii radar and White Sands radar, the thought here is the spacecraft may be about 10 miles long about 1 0 miles long. That, I want to emphasize, is very tentative and very preliminary information.

END OF TAPE

CAP COM Gemini 7, Houston. Your drogue time 31+26, your main time 32+46.

Fifty nine minutes, ten seconds, and he is showing here below 100,000 feet. He should be coming up on the drogue chute point very shortly at 50,000 feet. He is, so far he has used all of ring A and about two-thirds of ring b, and there's drogue chute called 59 minutes 30 seconds after the hour. Borman called the drogue chute to Elliot See here. He was breaking up, but readable, the communication. (Pause) The Wasp radar is also reading him at about 50,000 feet, 35,000 feet. (Pause) Spacecraft will have shlowed now to about 200 miles an hour, just before main chute opening. (Pause) Elliot See has put in a call, has advised we are standing by for their main chute report, we've not heard. (Pause) Borman says the main chute is out and looks okay. Main chute out and looks okay. (Pause) We are predicting splash now in about three minutes from now.

END OF TAPE

(Pause) Frank Borman has advised they are in the proper landing attitude. (Pause) And we have a splash. Air Boss....Air Boss... I'm sorry the transmission was garbled. Now they advise they are standing by to mark the splash. (Pause) We are 5 minutes, 36 seconds after the hour. Now we have confirmation on splash. Air Boss One says the chute jettisoned normally, and he is directly overhead. The search and recovery helicopters are being vectored to the scene. (Pause) Air Boss One is loud and clear communications with 7 on the water. These communications are not being relayed back here but we have been told several times they do have good communications.

END OF TAPE

All right, our best initial estimate on that splashdown point is some 7 miles south of the ground track and 10 to 15 miles from the Wasp, 10 to 15 miles uprange from the Wasp.

(pause)

Frank Borman has just advised Air Boss 1, that he requests helicopter pickup. He says he has elected to go that way. And there is no estimates yet as to when the helios will arrive. It will be something on the order of minutes, though. They are being directed to the scene.

(pause)

7 miles and 10 to 15 miles west of the aiming point.

(Pause)

Now we are advised that a helicopter is over the spacecraft.

(Pause)

The Wasp advises that they should be adide the spacecraft at 28 minutes after the hour, some 17 minutes from now.

(pause)

One of the helicopters advises that they have the chute in sight, they have not yet spotted that radar and reentry section which we also hope to recover. They are looking.

(pause)

Air Boss 1 now has the R and R section in sight. He is directing a helicopter to the scene, and let's listen to some of this busy traffic which is coming through pretty clearly today.

S/C Thank you.

S/C ..... (garble) ...

Air Boss 1 This is the Air Boss 1, put the smoke out for them.

102 The swimmers are in the water and the flotation is in the water.

We are advised that the swimmers and the flotation collar

have been dropped. They are in the water.

Air Boss Roger, I put them on UHF, I think I still see that chute .... (garbled) ... over.

... 2 This is ..... The swimmers have the flotation collar just to the spacecraft, they are heading around the spacecraft.

Air Boss ... This is Airboss, do you ... (garble).

.... (garble) .....

This is Houston. The collar now is around the spacecraft and the Wasp moving at 30 knots is 10 miles from the spacecraft.

(pause)

.... The spacecraft has drifted very low and still pretty much in the concentration of the bow and seems to be riding real well.

102.... This is 102, the HF antenna ... (garble)... but I believe they have retracted it now .... the beacon.

Air Boss That is affirmative, they have retracted, it did break off.

This is Gemini Control. The man directing traffic out there this morning, Air Boss 1 is his call sign, is Commander Davis A. Barksdale of North Kingstown, Rhode Island. We are advised that the spacecraft is riding very well in the water, riding nicely, and the swimmers are attempting to recovery the Parachute, there is engineering interest here in the status of the parachute to see if there was any degradation after 14 days in space, degradation on the shroud lines, that sort of thing.

102 This is 102, the swimmers have apparently established inter-communications with the Astronauts and ..... (garble)...

(pause)

Now the swimmers have plugged in their phones into the xternal communications jack on the spacecraft. They have just signaled the helicopter a big thumbs up.

(pause)

END OF TAPE

Helicopter number one, designated "Search One""is making its approach on the spacecraft. It is piloted by Lt. Roger McPherson, his own town, Reno, Nevada. (Pause) The life raft has been dropped to the swimmers in the water, its being inflated. (Pause) This is Houston. The life rafts have been inflated and one swimmer is standing on the collar, leaning against the spacecraft. (Pause) Houston, here. The winds are a little bit brisker than they were the other day when Wally Schirra and Tom Stafford came down. They are running between 8 to 15 knots out there today. In charge of those swimmers in the water is Lt. J. G. Christopher Brent, his home town Los Angeles. With him, David G. Sutherland, a Third Class Swimmer, his rate is a Third Class, in the U. S. Navy. His home town Peoria, Illinois. Also with them is Daniel J. Fraser, and his home town is Lindenville, New York. The port hatch is now opened. Air Boss One confirms the port hatch is opened. (Pause) Frank Borman is out of the spacecraft. He is... we don't know yet whether he is in the raft or standing on the collar, but he is out of the cockpit. (Pause) Jim Lovell is now emerging from the spacecraft. Both astronauts are now reported in the liferaft. Port hatch has now been closed by one of the swimmers, and for anyone who cares to look, the pilots are giving everyone and all a big "thumbs up" sign. (Pause) The hoist collar is now being lowered by one of the helicopters. (Pause) Smoke flares are clearly visible from the Wasp. Flag plot right now, they have their glasses on the entire operation. One astronaut on his way up. We can pick it out here on our picture provided by the television pool.

END OF TAPE

...one astronaut still not identified is safely inside the helicopter as it makes it's second approach to pick up a second astronaut.

(short pause)

And the second astronaut is now in the collar and is on his way up to that helicopter.

Now both astronauts safely aboard the helicopter.

(pause)

This is Gemini Control. And as the helicopter maneuvers to come aboard, we're exactly one hour from retrofire, one hour to go. Frank Borman and Jim Lovell fired the retros over the Equator west Canton Island.

(long pause)

END OF TAPE

This is Gemini Control, Houston. As the helicopter maneuvers to come aboard, much of the interest here in the Mission Control Center has turned to the landing point. You will recall the other day before Wally Schirra and Frank Borman parted they made a little bet to see who could get closest to the carrier. Schirra's landing point was 11.8 miles. Based on all of our radar data here, accumulative total of that data, the radar shows the splash point was between 7 and 8 miles from the carrier, although much of the visual sightings made it somewhere between 10 and 15 miles. So that wager is still very much in doubt. The Gemini 6 pickup point, and this could allow for some drift, wave action and wind action after splash, was 13.4 miles. The bet should be very close. This is Gemini Control, Houston.

This is Gemini Control, Houston. The prime helo touched down 37 minutes, 24 seconds after the hour.

This is Gemini Control, Houston. Frank Borman emerged from that helicopter door, he's getting a tremendous ovation, in this Control Center, as you can probably hear. He and Jim Lovell waving, and of the two, Lovell's beard is the more prominent.

This is Gemini Control, Houston. A very delighted bunch of Flight Controllers have lighted up their post-splashdown cigars now. Chris Kraft's was lighted, he hacked it at 40 minutes after the hour. He and his two prime assistants, John Hodge and Gene Kranz, on the floor standing shoulder to shoulder with him. Very delighted, looking down at their consoles, looking at those final events, correlating times of actual and planned, something that will go on here weeks and months to come in the data reduction process.

This is Gemini Control. Uh, punch up the network. Chris Kraft is going to say a word to network - let's listen.

END OF TAPE

Tape 627 had nothing on it.

This is Gemini Control Houston. We show an elapsed time for this mission of 330 hours 35 minutes and 26 seconds. 330 hours, 35 minutes, and 26 seconds. That may vary, but it won't vary by more than a second or two. This room, of course, is jammed with people. It is awash with cigar smoke. It is easily the most jubilant post-splash scene we recall. Some of the people we can see in the room include Dr. Gilruth, Director of this Center, George Low his Deputy, John Glenn is here, Neil Armstrong, Dave Scott who will be the next two Gemini Pilots up flying Gemini 8. Charlie Bassett is here, another one of our pilots who is assigned to Gemini 9, Elliott See, of course, will be his Command Pilot on Gemini 9. Every face in this room wears a smile and our initial report from the sick bay on the Wasp is -- was short and very happy, the Pilots are in very good shape, better than expected, better than expected was repeated. And after 335 hours of continuous commentary from this Mission Control Center this is the Public Affairs Console signing off on the Gemini 7 and 6 Mission.

END OF TAPE